THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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CLYDESDALES AND SHIRES.

The long extract for which we are indebted to our contemporary *The North British Agriculturist* contains not only a crushing reply by Professor McCall to some opinions on the conformation of draught horses, in reply to an American—Colonel Holloway—but a very suggestive paragraph relating to Shire and Clydesdale horses. Professor McCall, as everybody knows, is a leading authority on Clydesdales and one of the most successful breeders As a rule breeders of either class speak of the other with more or less contempt, and the "unconcious bias" of even the most impartial men renders their opinions of the class they do not breed far from impartial. Professor McCall's scientific training and intellectual grasp coupled with his practical experience raise him above the petty jealousies of the ordinary breeder, and give his views the highest value. He says "I am not afraid of the Clydesdale breed becoming too small in height or losing their good feet and legs and action; but I opine that unless breeders, exhibitors and judges run after bodies as much as legs (and for a few years to come, probably more) pure bred Clydesdales will not hold their own in the market as against Shires."

The stud books prevent admixture of breeds for the purpose of exhibition, and the owners of pure bred stock have such strong prejudices for the special form of their adopted breed that they can see little good in the other. We speak with deference, but it seems pretty widely acknowledged that whereas the Shire is the handsomest and heaviest bodied of draught horses, the Clydesdale has the best legs and feet, and perhaps the best action and stamina. Pure breed according to a stud book is invaluable if properly used, but the practical value of both Shires and Clydesdales is as working horses. When each breed possesses points or qualities not found to the same degree of excellence in the other, why not cross them? Lawrence Drew crossed the breeds and produced "magnificent specimens of draught horses." The Marquis of Londonderry's horse "Castlereagh" is perhaps the grandest draught horse alive—he has both Shire and Clydesdale blood in his veins. In the course of generations it may be possible to evolve by the most careful selection grand, sound, active horses from either of the breeds. Why waste the time in doing this when by crossing them a better horse than either can be obtained at once?

"VETERINARY" CHEMIST.

The Chemist and Druggist is the organ of the Pharmaceutical Chemist and the Druggist, here and in the Colonies. It is an extremely powerful one and is most ably conducted. No calling is better served by its weekly journal than that of the chemist, and we need only open its pages at anytime to know what the chemists are thinking and doing.

There is no antagonism between the veterinarian and the chemist but there is a rivalry which increases every year. Popular delusion and the ancient teachings of doctors have established the idea that when an animal is sick it requires medicine, and that when it is well an occasional dose helps to ward off disease. What the medicine is and how it acts is not a consideration which gives much cause for thought. Something in a bottle or a paper is accepted with simple faith, and paid for much more willingly than expert advice. Chemists sell medicines, and most of them are bold enough to prescribe for the lower animals. A few make a speciality of medicines for horses and cattle, and recommend their compounds in the most positive manner for animals they have never seen and disease they cannot understand. To a small minority of the trade it has occurred that, as the stock-owner has now pretty generally recognised the value of veterinary surgeons and learned to distinguished the owners of the word "veterinary" from farriers and horse-doctors, it will pay to assume the title, and thus pose as one specially versed in animal diseases.

The Royal College of Veterinary Surgeons has no wish and no power to prevent the sale of drugs and specifics by chemists or grocers to stock-owners who care to buy them. It does object to the assumption of the title "veterinary" chemist, and has determined to test the legality of its use by men not on the Register of Veterinary Surgeons.

A prosecution is pending, and the organ of the trade has taken the matter up, giving a donation and collecting subscriptions. Amongst our extracts will be found its editorial note, and we shall not be sorry if the case is well defended. Whatever the result it is best to know our exact position, and should the College meet with an adverse decision we trust they will at once appeal.

CASES AND ARTICLES

MALLEIN AS AN AID TO THE DIAGNOSIS OF GLANDERS.

In the last number of *The Journal of Comparative Pathology and Therapeutics*, Professor McFadyean gives the details of experiments he has made in London. Everyone interested in the subject should read the original article, but as we are permitted to make an abstract of it we offer the following:—

The fluid is injected under the skin on the left side of the neck, and the temperature taken at the same time. The temperature is again taken every four hours during the next eighteen or twenty hours. In healthy horses a rise of perhaps one degree may occur, but this is unaccompanied by constitutional disturbance, or by diffuse swelling at the point of inoculation. In glandered horses there is a rise of about four degrees, constitutional disturbance is marked, and the spot at which inoculation took place is much swollen and tender. The greatest rise of temperature is usually found about the 12th hour after inoculation, but it may be reached on the 8th or delayed to the 18th.

CASES.

No.	Condition.	Initial Temp.	Maximum Temp.	Remarks.
1	*App. healthy	95·8	101·0	P.M. no glanders
2	App. healthy	99·8	100·8	P.M. „ „
3	Glandered	100·0	103·5	P.M. glandered
4	App. healthy	100·4	101·0	Still alive—healthy
5	Glandered	102·2	103·6	P.M. glandered
6	App. healthy	100·0	103·0	P.M. no glanders
7	Nasal gleet	100·8	101·8	Still alive—healthy
8	Suspicious	101·4	105·0	P.M. glandered
9	Farcy	101·4	105·8	P.M. „
10	App. healthy	100·6	102·5	P.M. no glanders
11	Suspicious	103·1	102·0	P.M. glandered
12	„	99·6	105·0	P.M. „
13	„	103·0	102·6	P.M. „
14	App. healthy	103·0	105·0	P.M. „
15	Suspicious	100·3	104·5	P.M. „
16	„	99·2	105·8	P.M. Still alive
17	„	100·8	105·2	P.M. glandered
18	„	100·8	105·4	Still alive
19	„	101·8	105·6	P.M. glandered
20	„	99·2	105·0	Still alive
21	App. healthy	100·8	104·6	„ „
22	Suspicious	101·0	105·0	P.M. glandered
23	„	102·8	106·0	P.M. „
24	„	102·0	103·0	P.M. „
25	App. healthy	99·4	103·6	Still alive—healthy
26	„ „	100·2	102·8	„ „ „
27	„ „	100·4	101·6	„ „ „
28	„ „	100·0	101·2	„ „ „
29	Unthrifty	101·5	105·6	P.M. diseased liver, no glanders.
30	„	101·2	104·8	P.M. glandered
31	Suspicious	99·8	104·8	P.M. no glanders
32	App. healthy	100·2	101·2	Still alive—healthy
33	„ „	100·2	101·2	„ „ „
34	Nasal gleet	100·2	102·3	Still alive
35	Farcy	102·0	105·0	P.M. glandered
36	Unthrifty	101·2	101·2	Still alive, improving
37	Suspicious	102·0	105·0	P.M. glandered
38	„	101·0	106·0	P.M. „
39	„	101·0	101·3	Still alive—healthy

* App. = apparently.

"It now remains to make a brief analysis of the results obtained in these 39 cases. Fifteen of the horses are still alive, and the remaining 24 have been killed and submitted to a post-mortem examination. In 18 of these 24 distinct glanderous lesions were discovered, and in the other 6 the post-mortem did not reveal any such lesion. The following table refers to the 18 glandered horses.

No. in Series.	Initial Temperature.	Maximum Temp. during the 18 hours after injection.	Hour at which Temp. reached its maximum.
3	100·0	103·5	10th
5	102·2	103·6	6th
8	101·4	105·0	18th
9	101·4	105·8	12th
11	103·1	102·8	14th
12	99·6	105·0	13th
13	103·0	102 6	8th
14	103·0	105·0	18th
15	100 3	104·5	11th
17	100·8	105·2	11th
19	101·8	105·6	14th
22	101·0	105·0	11th
23	102·8	106·0	10th
24	102·0	103·0	10th
30	101·2	104·8	10th
35	102·0	105·0	13th
37	102·0	105·0	8th
38	101·0	106·0	12th

A glance at the above table will show that except in two instances (Nos. XI. and XIII.) the temperature after the injection of mallein went up to 103° at least; in three cases it reached 103-104°, in 2 cases 104-105°, and in 11 cases 105-106.°

In the two cases in which no rise of temperature followed, the latter was febrile (103°) before the injection of the mallein, and in one of these (No. XIII.) the animal was almost in a dying state at the time of injection.

Turning next to the 6 cases in which the post-mortem did not reveal any glanderous lesions, it will be observed from the following figures that in 3 of them the temperature after injection remained under 103°, while in the other 3 it rose to that point or above it.

No. in Series.	Maximum Temperature.
1	101·0
2	100·8
6	103·0
10	102·5
29	105·6
31	104·8

Finally, there remain for notice the 15 cases in which the animals are still alive. The following table refers to them. The mark ° denotes a clinical suspicion of glanders, — that the animal was believed to be healthy or non-glandered.

No. in Series	History	Initial Temperature.	Maximum Temperature after Injection
4	—	100·4	100·8
7	—	100·8	101·8
16	°	99·2	105·8
18	°	100·8	105·4
20	°	99·2	105·0

No. in Series	History	Initial Temperature.	Maximum Temperature after Infection
21	—	100·8	104·6
25	—	99·4	103·6
26	—	100·2	102·8
27	—	100·4	101·6
28	—	100·0	101·2
32	—	100·2	101·2
33	—	100·2	100·6
34	—	100·2	102·3
36	—	101·2	101·2
39	—	101·0	101·3

We do not intend to appraise the precise value of mallein from the results obtained in these experiments, but prefer to wait until we can base our estimate on a larger series of observations The readers of this article will probably form their own conclusions on the matter, but in doing so two points should be kept in mind. The first is that the majority of the horses discovered to be glandered on post-mortem did not present during life any symptom from which the most experienced practitioner could have certainly diagnosed the disease. The second point is that the non-discovery of glanders lesions in certain of the cases is not absolute proof of their non-existence. In most of the cases the post-mortem examination had to be carried out at a knacker's, and it had sometimes to be of a rough-and-ready character."

SALIVATION CAUSED BY A PIN.

By R. J. Bushnell, M.R.C.V.S.

On the 21st of November last, a young mare was brought to my yard showing profuse salivation at the mouth, but no other symptoms. On examination I found a large swelling on the off cheek, extending from the commissure to the molar teeth, tender to the touch, very hard and produced by a severe bit. I thought this was the cause of the salivation, but on questioning the man in attendance, I was informed that as he was taking some hay out of her mouth in the morning he noticed that it was smeared with blood, and I then made a further examination of the teeth and mouth. Opposite and to the inside of the third molar tooth (off side) I felt a sharp object, as if a piece of tooth were protruding through the gums. I was able to move this with the finger and thumb, and after a little trouble extracted what proved to be an ordinary pin—an inch long—to the great surprise of a few spectators. The pin had evidently got there with the fodder, and the head had been broken off.

Moral. Always examine the mouth thoroughly in case of salivation.

Anthrax in Hampshire.—An outbreak of anthrax was reported last week to the authorities of the Kingsclere Division of Hampshire as having occurred among pigs on a farm at Ram Alley. Prompt measures were being taken to prevent the spread of the disease.

TRANSLATIONS.

CALCULUS IN THE URETHRA OF A HORSE.

By M. Demeurisse, Veterinary Surgeon, Paris.

Trans. by Thos. J. Watt Dollar, M.R.C.V.S.

The horse in question was an entire, five years old, which had been affected with colic since the morning, and as the animal had made several vain attempts to micturate during the day and had cast itself on the ground, at eleven o'clock at night the owner sent for me. A very renowned "quack" of the district had introduced pepper into the urethral canal and then covered the litter of the subject with sheeps droppings. which was the pretended infallible cure in the locality for such cases. The droppings, however, on this occasion did not produce their vaunted effect. On my arrival I found the animal down, in its last agony. During the short time which preceded death, I made an incision along the anterior border of the penis and extracted a calculus of the size of a large almond which was adherent to the mucous membrane at a point about 12 centimetres from the free extremity of the organ. It was easily perceptible through the tissues; it had probably come from the bladder and had been the unique cause of the colic. I had a great wish to make an autopsy but could not obtain permission to do so. This calculus was muriform, rather regularly ovoid, and about nine grammes in weight. It was reddish in colour. I deposited it at the laboratory for the inspection of butcher's meat in Paris.—*Recueil d'Alfort, 15th January*, 1893.

Extract from the "Chronique d'Alfort" of January 15th, 1893.

By Professor G. Barrier.

Trans. by Thos. J. Watt. Dollar, M.R.C.VS.

Since Brohmann in 1884, at the instigation of Schmidt, made known that the blood was capable of attenuating the authrax bacillus, Buchner has shown that this property is also possessed by the isolated serum, numerous researches have everywhere been made, in France, in Germany and yet to a greater extent in Italy to study the conditions called "bactericidic or antitoxic" and the benefit to be drawn therefrom in the treatment of contagious diseases.

In this way M. M. Richet and Hericourt have been able to enrich therapeutics with a new practice, hœmatotherapy. which M. Bouchard controlled, then soon afterwards transformed into that more general of serotherapy. methods which consist in treating infectious diseases by the injection of blood, of serum or of humors obtained from vaccinated animals; that on the other hand, M. M. Cherrin and Roger were led, always by the same order of ideas, to make some very instructive comparisons between

the action of the humors of vaccinated animals and those of healthy subjects.

But latterly several works of this kind have again shown the influence of variable chemical conditions of the organism on the development, the swarming, in its midst, of morbific germs or on the action of their various poisons.

In the first number of *The Revue de Médecine* (1892, p. 1—24) M. Bouchard published a very remarkable study on the curative or prophylactic effects of the blood of refractory animals, either by natural or conferred immunity, in which work he declares he has distinctly observed the antitoxic action of this liquid or simply of the serum, on several occasions. M. M. Brieger and Erlich have in their turn proved, in No. 18 of *The Deutsche Médic-Wochenschrift* (1892, p. 306) that the milk of a goat rendered refactory to tetanus is also endowed with the vaccinal property, 37 days after the outset of the treatment, when one injects it into the peritoneal cavity of mice, which animals, it is known, are very sensitive to tetanic infection. They have, moreover, proved that this fluid and even the butter-milk (petit-lait) may also have a complete curative action by injecting it six hours after inoculation by means of splinters of wood charged with strong virus.

Lastly, they announce that they have obtained similar results for typhoid fever.

More recently (Soc. de Biologie. 29th October 1892), M. Ketscher, has, on the advice and by the direction of M. Gamaleia, made known there is also reason to admit that the same liquid confers immunity in cholera. After having vaccinated goats by means of subcutaneous, intra-peritoneal and intravenous injections of very virulent cultures, he injected the milk of these animals into the peritoneum of cavies (cobayes), and he saw: 1st. That the dose of five cubic centimetres vaccinated against the fatal doses of a virulent culture; 2nd. That it was capable of curing already infected subjects,

With respect to pneumonic infection, analgous effects have been noticed with the serum of vaccinated animals. To the researches of Foa and Carbone, of Emmerich and of Fawitzky, of G. and of F. Kemperer, those published last July by M. J. Arkharow, in the *Archives de Médecine Expérimentale et d'Anatomie Pathologique*, should be added. Rabbits to which the serum of a vaccinated rabbit is injected in the skin, immediately after the virus and at the same point remain indemnified, whilst the counter-proofs succumb; nevertheless, the serum is inefficacious if it is injected in another place, or if it be inoculated only the next day. Intra-venous injections give identical curative results; they may even save the subjects 14 hours after the virulent inoculation, when fever has already manifested itself. By means of cultures in vitro, the same author has observed that vaccinal serum does not kill the pneumococcus with which it is sown, but that it weakens it by diminishing its longevity and by modifying its normal form; on the other hand, he saw that the vaccinal properties appear insensibly and not all at once.

Lastly, the 14th November 1892, MM. Richet and Hericourt—who had, since 1888, shown the properties of immunity which the blood of vaccinated animals confers—communicated to the Academie des Sciences that, with regard to tuberculosis, the blood is endowed with curative powers, if not absolutely efficacious at least able to produce an important prolongation of life. These last experiments were made on the dog, with "la tuberculose aviare," which has the property of vaccinating it against human tuberculosis, to which, on the contrary it shows itself very sensitive. Thirty-one dogs acting as counter-proofs received human tuberculosis, and as a medium period survived this infection for 31 days; whilst six other subjects, which were inoculated with the same disease by intravenous injection, and to which the blood of the counter-proofs was immediately transfused, survived for the medium period of 65 days, that is to say double that of the preceding. By this means, MM. Richet and Hericourt have been able to moderate, and even arrest, they say, the evolution of a malady, constantly fatal when the animals are not submitted to any treatment.

BLOOD SERUM THERAPEUTICS—

THEIR PRACTICAL LIMITS AND THE METHODS OF CONFERRING IMMUNITY FOR THE PURPOSE OF OBTAINING CURATIVE SERUM (HEILSERUM.)

By Stabarzt Dr. Behring, Assistant at the Koch'sche Institut.

Trans. by Jno. A. W. Dollar, M.R.C.V.S.

Pushing Koch's discovery still further, the author has sought a general method of obtaining a curative substance which shall be either a specific product of the organism of the disease or shall contain such a product. Notices of certain work undertaken by Behring, in company with others such as Kitasato, to determine the above mentioned limit, have already appeared in the *Berliner Thierärzthiche Wochenschrift* (see *B.T.W.* 1890, page 397; 1891, page 8; 1892, No. 20). Further, Behring has collected all his experiments up to the present time into book form from which we condense the following.

The principle which Behring seeks to demonstrate by these experiments is, that the blood of an animal protected against a certain infectious disease possesses a curative power against this very disease in other animals. Inasmuch as this power resides in the clear blood serum, Behring describes the application of his teaching as Blood-serum Therapeutics. When then, for example, an animal is rendered immune against tetanus by a given method, the injection of its blood exerts a curative influence on another animal which has been inoculated with, or already suffers from, tetanus. And this obtains not only in animals of the same sort as that from which the blood is taken but also in other kinds of animals. In this consists, as can easily be seen, the practicability of blood serum therapeutics; it is possible to treat a horse suffering from tetanus, or for that matter a man, with the blood of an experimentally protected guinea pig.

In order to reach this—the kernel of the whole question, a long series of secondary experiments embracing every single infectious disease became necessary. The first thing was to protect suitable animals. Behring, therefore, next treats of the method of protecting animals in order to get this blood serum, and in this connection very numerous theoretical and practical questions have to be solved. Then there remains to be determined for example whether in man or the animals to be cured the use of the curative serum is allowable and will prove serviceable without reference to the kind of animal from which the serum is obtained, or whether only certain animals will supply serum of the proper quality for a special purpose. Up to the present the author had completed the preliminary work and experiments in connection with tetanus, diphtheria, and a long series of diseases produced by streptococci, as well as in regard to puerperal fever, the malignant form of pneumonia, pleurisy and peritonitis; the worst forms of suppurative fever, septicæmia and pyæmia, suppurative arthritis, traumatic erysipelas, laryngitis and many others. The present results are founded on experiments on animals, for the useful application of this new therapeutic method to man will be attended with many difficulties as the author at some length sets forth.

He assures us however that the subcutaneous injection of horse and sheep serum in much greater quantities than is needed for the attainment of his object is absolutely harmless. In connection with traumatic tetanus in horses and sheep the author has acquired a very wide experience. We would suggest to the author that the use of serum from horses for the treatment of persons suffering from tetanus may be attended with great danger, inasmuch as the blood of diseased horses may contain an organised ferment or poison which would be so carried over. In veterinary practice this is of no importance, as if animals with traumatic tetanus are not treated death is generally certain.

But even though most persons with tetanus cannot be cured it is still the duty of every medical man to prevent aggravation of the disease by his treatment. Every danger can, however, be avoided by first determining the healthiness or otherwise of the serum-yielding animals by a post-mortem examination, as has long been done in the case of calves from which small-pox vaccine material is obtained.

The author has also obtained protective serum against diphtheria, he regrets however, on account of the great expense, not being able to turn the experiments to account so far as men are concerned. He has also demonstrated (by experiments on animals) the possibility of curing those diseases which depend for their existence on the presence of streptococci.

Moreover, whilst the tetanus or diphtheria or streptococcus serum can cure, it can also, and with much greater certainty, protect persons from these diseases, a fact which may prove of great use in diphtheria and streptococcus diseases, as well as for children threatened by severe epidemics of diphtheria.

In the second portion of the book the author deals with the methods of rendering animals immune with the object of obtaining the protective serum He inoculated guinea pigs with diphtheria cultures and then immediately treated them with terchloride of iodine, the animals later showed themselves protected against a virulent culture from which control animals died in 36 hours. One may explain the production of immunity by imagining that the diphtheria bacilli are not killed by the terchloride of iodine, and so continue the production of nitrogenous substances (products of the destructive metabolism of nitrogenous compounds) but that these latter are of less virulently poisonous qualities than before. The author next tried the effect of terchloride of iodine on the diphtheria poison outside the body, and for this purpose took diphtheria cultures which had been treated with the above reagent. The attempt succeeded very well. This principle was now applied to other diseases, and with the assistance of Professor Schütz and Assistant Casper was extended to tetanus. Here also positive results were obtained with rabbits. The author further gives exactly the method of protecting horses and sheep. From these directions horses have been protected in the veterinary school so that they successfully resisted the injection of 100 c.cm. of cultures which in doses of ·2 to ·5 c.cm. with certainty killed control horses and sheep. In single animals the power of conferring immunity amounted to from 1 : 200,000 to 1 : 1,000,000. For a man weighing 50 kg. $^1/_{20}$ of a c.c.m. suffices to confer immunity against tetanus, the whole matter is therefore very simple as $^1/_{20}$ c.cm. is only a tiny drop. The further investigation of the properties of this protective material undertaken by Drs. Behring and Knorr, showed that it possessed an unusual resistance to physical, chemical and atmospheric influences. On dialysis the active principle passes through the membrane and farther, one misses in this case the characteristic albumen reaction. The author has reason to hope to be able to apply these facts, which are in the highest degree interesting, to determining the value of isolated curative substances in the treatment of men. It is of the greatest importance to render the immunity conferring or curative serum (Heilserum) an unsuitable ground for the growth of bacteria, in order that for subcutaneous injection every danger may be avoided. The serum at present used therefore contains ·5 per cent. of carbolic acid so that both direct and indirect inflammatory reactions may be avoided.

The author has also succeeded in curing animals with progressive diphtheria infection; he wishes, however, to so far extend the experimental basis of his curative methods that the use of these for human beings may rest on a perfectly sound basis, in order that the first outburst of hope and enthusiam may not by subsequent undeceiving stand in the way of its further spread.

In an appendix are three highly interesting schemes: one on the methods of conferring immunity against infectious disorders; a second on the action of the immunity conferring agents, and the last on the causes of immunity, which the author divides into:

(*a*) A passive condition of the organism (exhaustion theory and theory of unfavourable culture ground) to-day this theory is already abandoned.

(*b*) A functional peculiarity of the organism, that is to say

(1) A function of the living part of the organism (convulsion theory) the author considers that this theory extends into the province of metaphysical speculation and so withdraws itself from the standpoint of experimental science.

(2) A function of the lifeless portions of the organism.

Berliner Thierärztliche Wochenschrift. No. 41.

ARMY VETERINARY DEPARTMENT.

WAR OFFICE, JAN. 13th, 1893.

VOLUNTEER CORPS (ARTILLERY): "The Highland," Vet.-Lieut. D. Thomson, resigns his commission, Jan. 14th.

Hugh Ross, gent., to be Vet.-Lieut., (Jan. 14th.)

JAN. 20th, 1893.

ARMY VETERINARY DEPARTMENT. Vet.-Capt. Robert Francis Frost to be Vet.-Major, (Jan. 14th.)

ARMY FARRIERS.

A correspondent writes that our note last week on this subject was inaccurate. The facts are that Farriers have now the following grades.

1st. Shoeing-Smith.
2nd. Corporal Shoeing-Smith.
3rd. Sergeant-Farrier.
4th. Staff Sergeant-Farrier.
5th. Farrier Quarter-Master-Sergeant.

No. 2 is a new grade. No. 1 and 3 are as before. No. 4 is a new rank, higher than that of Sergeant and equivalent to the rank of Squadron Sergeant-Major which arrives with it great advantages as regards position, quarters and pension.

Previous to the issue of this warrant, the farrier could not get beyond the rank of Sergeant except in the case of the few who became Farrier-Majors or as they are now called Quarter-Master-Sergeant Farriers.

This last grade is the highest below the rank of Warrant Officer and existed before the new warrant.

We regret very much that any error should have been made in our note.

EXTRACTS AND NOTES.

A BLACKSMITH USING THE TITLE OF VETERINARY SURGEON.

James Owen, 223 Green Lane, Small Heath, appeared in answer to an information laid on behalf of the Royal College of Veterinary Surgeons charging him that he, not being on the register of veterinary surgeons, and not holding at the time of the passing of the Veterinary Surgeons Act, 1881, the veterinary certificate of the Highland and Agricultural Society of Scotland, did on the 13th of December unlawfully use and take the title of veterinary surgeon, and also a description stating that he was specially qualified to practice a branch of veterinary surgery contrary to the section 17 of the aforesaid Act.

Mr. Parfitt, who prosecuted, said he was instructed on behalf of the Royal College of Veterinary Surgeons. The defendant, before these proceedings were taken, had been twice warned that he must not have the term "shoeing and veterinary forge" and "veterinary surgeon" placed upon his door as at present. In spite of these warnings he continued the practice, and under section 17 was liable to a penalty of £20. The defendant carried on business as a blacksmith.

Proof having been given that the defendant's name was not on the register, and that the descriptions in question were painted on the doorposts outside his forge, Mr. Mutlow, in defence, urged that there were extenuating circumstances in the conduct of his client. He had for thirty years acted as a veterinary surgeon, and had proved himself a most capable surgeon. On receipt of the letters of warning he endeavoured to paint out the descriptions complained of, but the paint had not been effective, so that the wording could be seen through.

One of the defendant's workmen stated that on Mr. Owen's instructions he painted out the letters in October with one coat of paint, which had since been washed off.

Mr. Cook:—Can anyone read the letters now?

Witness:—Well, if they look carefully; not without.

The magistrate said the case was a very proper one to be brought forward. Defendant would be fined 40s. and costs.—*Birmingham Daily Post.*

"VETERINARY" CHEMIST.

The following extract appears as an Editorial in *The Chemist and Druggist*

We regret that our efforts to raise a guarantee fund to ensure a good defence of the right of chemists to use the title "veterinary chemist" do not seem likely to be successful. A summons has been served by the Royal College of Veterinary Surgeons on Mr. R. H. Groves, pharmaceutical chemist, Blandford, who on a "Handy-Book of Veterinary Medicine" which he lately published, described himself as "Pharmaceutical and Veterinary Chemist"

We consider that the Veterinary Surgeons Act was never intended to give to veterinary surgeons the monopoly of the adjective veterinary, which is what the College now practically claims. The sale of veterinary medicines is undoubtedly open to anyone, and how can a chemist, who makes a speciality of this department, better explain this to the public than by calling himself "veterinary chemist"? Can it be reasonably said that this implies to anyone capable of understanding the English language that the person so described is "specially qualified" to practice either veterinary surgery or veterinary medical treatment? We are aware that the College has secured a good start by getting a decision that the use of the description "veterinary forge" is an infringement of its Act, and it may be that the judge would decide against our view as a matter of law. In that case there will be nothing left but submission, but until a High Court decision is given to that effect, we shall not believe that the restriction is either legal or just.

We have asked if there is sufficient interest in the trade to contest the point. We stated last week that we would ourselves contribute £10 towards a guarantee fund; Mr. Groves offers £5, and two other subscribers had offered £2 2s. (B. and S.) and £1 1s. (A. O) respectively. Since then we have received the following promises: B. & S. £2 2s.; W. F. £1 1s.; H. & Co., £1 1s.; J. W.. £1 1s. L.J.H. £1., W. W. 10/6., and W.M. 10/6; that makes a total of £25 9s. Without something near £100 guarantee we shall not take any further steps, and we have already written to Mr. Groves explaining the position, and advising him to make the best terms he can for himself. Unless there are many other "veterinary chemists" in the country who think the matter worth contesting, and who write to us within the next day or two, we shall proceed no further.

A PRELIMINARY REPORT ON ŒDEMA.

By Victor Horsley, B.S., F.R.C.S., F.R.S., and R. W. Boyce, M.B.

Since the process of transudation is essentially a vital one, it will long remain a fertile source of inquiry to the physiologist; it is still more important to the pathologist. The passage of fluid from the circulating blood through the wall of the blood vessel into the cell spaces and then into the capillary lymphatics was supposed by Lower in 1669 to be due to mechanical pressure in the blood vessels produced by venous stagnation. This idea has survived to the present day. As a matter of fact, of course, the complex processes of living tissues are not to be so easily explained by the simple statement of Lower. Two hundred years after Lower (namely, in 1869) Ranvier proved that another factor must be considered, namely, the action of the nervous system. We will subsequently return to the discussion of his facts, which have received scant attention in this country.

Various Factors in the Production of Œdema.

Twenty years after Ranvier we have the remarkable researches of Heidenhain, in which the concurrence of the various factors is first stated comprehensively, in a thorough and accurate analysis. Being responsible in lecturing on general pathology for giving a reasonable exposition of this commonly supposed simple subject, we have always felt the necessity of setting on foot further investigation on the questions it involves. Having with this object entered on a research of this kind, we intend on this occasion to refer only to certain points that may be readily illustrated. The facts of normal anatomy and physiology on several points are wanting.

The Insufficiency of Physical Theories.

We believe, however, that it will not be useless to state what remains to be done as well as to discuss what has been accomplished. In the first place, as regards the possibility of finding an explanation of the phenomena in simple physical considerations. It is not going too far to assert that the remarkable paper by Tigerstedt and Santesson disposes, once and for all, both of the conclusions that have been derived from physical considerations, and of the claim that the process of transudation in the living body is capable of interpretation by mere variations of pressure on the sides of a permeable membrane.

What is Venous Stagnation?

It is essential that we should formulate our views on this matter, since no greater error exists than that as regards this oft-spoken-of factor. Since venous anastomosis is so free, it is self-evident that the term "venous stagnation" must always be relative and not absolute. Not only is this to be considered so far as the mere distension of the vessel is concerned, but also as regards the part or tissue in which the stagnation is occurring. Of these two points we will now give examples drawn from our experiments.

The Proportionate Degree of Distention.

In a dog in which Ranvier's experiment of retroperitoneal ligature of the vena cava and concurrent section of the sciatic nerve was performed, no œdema whatever occurred, not even in the thigh. Moderate enteritis was present, but on killing the animal the remarkable and, according to Professor Ellenberger, who kindly wrote to one of us on the point, rare anomaly of a double vena cava, was found. Venous stagnation here, therefore, must have been very low in consequence of the unforeseen anastomosis. There was a remarkable turgidity of the fat about the bladder, which is a very constant lesion after the ligature of the cava. The degree to which this is developed is conceivably proportional again to the same thing—namely, freedom of anastomosis—but also to the looseness or distensibility of the tissue involved. Further evidence in favour of the former of these views is shown by the fact that in the female, in whom of course the anastomoses are very free, and the ovarian and uterine veins large, this turgidity of the perivesical fat is rarely marked, whereas it is at its acme in the male.

The Influence of the Nervous System.

Ranvier's experiment consisted in ligaturing the vena cava between the spermatic and ilio-lumbar trunks. This operation and that of ligature of the femoral and iliac veins is commonly considered by clinicians to be necessarily a fatal obstruction and the source of intense œdema, even in cases where the vessel walls are healthy. No œdema occurs in dogs with this profound venous stagnation unless, as Ranvier showed, section of the vasomotor nerve fibres is superadded. In an animal so experimented on, very marked œdema is produced in the right leg in which the sciatic nerve was divided; whereas the left leg remained free from it, although, of course, the seat of equal stagnation. As regards the accuracy of Ranvier's dictum, which has been adversely criticised by Sotnitschewsky, it ought here to be said that of twelve such experiments we have seen Ranvier's result in nine. There is no doubt, therefore, that as Ranvier stated, in dogs this combination of factors produces œdema. In cats and rabbits, as Sotnitschewsky points out truly, we find the phenomenon is not nearly so marked. The actuality of the œdema thus evoked is well shown by dissection; a rapid dissection of the ankle region exhibits well the infiltration of the loose tissues about the tendo Achillis, and another, similarly prepared, the distension of the areolar spaces and separation of the component fibres.

The Chemical Condition of the Blood.

The late Dr. Wooldridge was the first to show that the condition of the albuminoids of the blood, especially the fibrinogens, could be profoundly altered by the injection into the circulation of certain other albuminoids which he termed *tissue fibrinogens*. The clinical action of these substances is to produce a twofold effect, namely, (1) intravascular clotting; (2) a negative phase, namely, non-coagulability of such blood as may have escaped clotting. A small dose of such albuminoids, he discovered, led to the occurrence of œdema or dropsy, and extravasation of red blood corpuscles, when the

altered blood was circulating through a district of tissue in which the blood vessels were moderately distended. Thus, if the femoral vein be tied, no œdema follows, but if Wooldridge's tissue fibrinogen be concurrently injected then, as is shown in our experiments, the occurrence of œdema is very obvious. In this combination of factors again, as in Ranvier's experiments, we are dealing with the vessel wall on the assumption that it is healthy and unimpaired. Now, as Wooldridge first showed, the disruption of the normal relation between the circulating living plasma and the vessel wall is not only a point of profound physiological importance, but is also relatively readily brought about by the injection of the substances termed by him "tissue fibrinogens."

Relation of Vessel Wall to Blood within it.

We would venture in this sketch to allude to the behaviour of endothelium when it is the seat of pathological transudation. Arnold showed long ago that the stigmata and pseudostomata, as described by Dybkowsky, Schweiggerseidel, Cohnheim, Klein, and Sanderson, and a host of observers both previously and subsequently, are definitely increased in size when the influence of œdema or of exudation-exciting agencies is brought to bear on the vessel. In animals in which, owing to the injection of the tissue fibrinogen, thrombosis and transudation were in active development, the epithelial covering of the pulmonary pleura showed very marked pseudostomata.

Cellular Secretory Action.

It is impossible to conclude even a sketch of this kind without reference to Heidenhain's view of the secretory action of the endothelial cells of the blood-vessel walls, and probably also of the connective tissue corpuscles. We have as yet no new facts on this subject to offer; but we would refer to the table of points which must be investigated, to suggest if possible the way in which the fruitful suggestions of Heidenhain should be followed out. Mr. White has very kindly agreed to pursue the research so far as the changes in the blood and lymph vessel walls are concerned. It would be very gratifying if possibly concomitant investigation could be commenced on the various lines not at present in the hands of physiologists and pathologists, so that the elucidation of this important subject might be substantially pushed forward in relatively a short time.—*British Medical Journal.*

ACTINOMYCOSIS OF THE SPINE.

Within the last two or three years a large number of cases of actinomycosis have been placed on record. The spinal column, as the seat of the primary disease, however, is very rare, and the following case, recorded in the *Münchener Medicinische Wochenschrift*. No. 25, 1892, is worthy of notice. The patient was a girl aged sixteen. For a long time the diagnosis remained uncertain, for from the family's clinical history tuberculosis was suspected. The primary symptoms pointed to the spine or posterior portions of the ribs as the seat of disease. It was considered probable that the spine was first attacked and that the morbid process then spread to the ribs and pleura, producing an acute and extensive pleuritis on the left side with a large amount of effusion. The inflammation then extended further up the spine and the pus penetrated between the intercostal muscles and the costal pleura, at first slowly and then more rapidly. At the same time the left lung was gradually invaded. The long tissues then commenced to break down, and a small abscess formed which finally burst into the bronchi. An examination of the sputum about this time cleared up the diagnosis, for the "ray fungus" was found, and thus once more proved the value of such an examination in cases where the diagnosis is doubtful. Now that the examination of expectorated matters and discharges from the chest is becoming more systematic cases of this kind will probably become much more numerous. To return to the account of this case: The pus extending on the left side finally penetrated the pericardium, leading to a sharp attack of pericarditis, followed by death. Although careful search was made no metastatic deposits were found in the other organs of the body.—*The Lancet.*

DEATH AFTER CASTRATION—DAMAGES.

The plaintiff, John A. Ahern, sued a farmer residing near Macroom, for the recovery of £8, value of a colt alleged to be lost through a breach of contract on the part of the defendant, Richard Good, who is a veterinary surgeon residing at Aherlow, Co. Cork.

The breach of contract was alleged to consist in the performance of the operation of castration by the defendant's son, whereas the plaintiff had engaged the defendant himself to do it. After the operation the colt died. Mr. Good, jun., was not a duly qualified practitioner, having been only a student for a year. It was also alleged by the plaintiff that Mr. Good, jun., had on the same date operated on a colt, the property of a Mr. Williams, which also died. This colt had, however, been insured against death by the defendant, who was agent for a horse insurance company. It transpired that Ahern had refused to insure his colt, both before and after the operation.

The defence was that the operation was performed by Mr. Good, junior, as skilfully as it was possible to perform it, and that the loss of the colt was attributable to the negligence of the owner.

Mr. Richard Good was examined by Dr. Wynne, solicitor, and stated that his son was skilled in such operations which he had frequently entrusted with him. He watched the operation in question, and it was as skilfully performed by his son as it could be done by any veterinary surgeon.

Cross-examined by Mr. A. Julian, solicitor (who appeared for the plaintiff). Witness said he was a certificated veterinary surgeon, but had never been at any college. His son was a student for the last twelve months, but had failed in his first examination—a chemical one. Witness thought, however, that his son was as well qualified to operate as he was. He had charged 7s. 6d. for each operation he had performed on the date on which he operated on the defendant's colt, but his charge would have been higher had he been called to a distance.

His Honour, in giving his decision, said he should come to the conclusion that there was negligence in the case. The degree of "V.S." meant something, and when a gentleman described himself as a veterinary surgeon in a public advertisement, referring to his own skill in this particular operation, and when he did so in a very marked manner, any person sending his colt to be operated on had a right to expect whatever skill this gentleman said he was possessed of. It was negligence on the defendant's part to ask a mere bystander—because His Honour could recognise the defendant's son as a mere bystander, a

handy man—to perform the operation. The defendant was also bound to go himself and attend the colt, when inflammation had set in. His Honour could not believe that the congenital skill and the degree of veterinary surgeon were hereditary, and under all the circumstances he would give a decree for £6.—*Cork Evening News.*

THE FUNDAMENTALS OF DRAUGHT HORSE BREEDING.

By Professor M'Call.

[Extract from a reply in *The North British Agriculturist* of January 14th.]

I have read with great pleasure your reprint of Colonel Holloway's article which appeared in the Christmas number of *The Breeders' Gazette*, Chicago, on 'The Fundamentals of Draught Horse Breeding,' and as the gallant Colonel has taken fully twelve months to mature his ideas on the remarks made on this subject by my friend Mr. Alexander Galbraith and myself, I infer that he has brought his ablest arguments to bear on the question, not only by way of giving a general explanation as a guide to breeders, but also of exposing the errors into which my friend and myself had fallen.

The Colonel very naturally deals first with the general statement made by Mr. Galbraith that 'Clydesdale breeders were making a fatal mistake in making big feet and long sloping pasterns the be-all and end-all of draught horse breeding.' Need I say that the remark was co-related with and founded on the results of the show-ring, and undoubtedly it was a fair inference, the rule being that horses with the largest feet and the longest pastern generally obtained the prize, no matter how deficient they might be in other points. The Colonel having referred to the general statement, now proceeds to say, 'There are many who insist (all should) upon large, good feet and *long* sloping pasterns; there are none with whom they are the be-all and end-all.'

But I repeat, if the horse exhibited is only possessed of big feet and long pasterns, and lacks depth of chest and abdomen, strength of back and loins, etc., surely the judge who places that animal first in the class of dray horses endorses Mr. Galbraiths's allegation, that apparently 'the be-all and end-all' of a dray horse is *big feet* and *long* sloping pasterns. Colonel Holloway insists upon large feet and long sloping pasterns, and by his remarks leaves the reader to infer that Mr. Galbraith and myself recommend the opposite, or *small feet and short pasterns*. That we do not, and never did. What we do recommend are medium sized feet with fair length and strength of pasterns, and these last nicking nicely into the feet. As a general statement, I unhesitatingly say *that large feet are weak feet*, and further, that they are more or less impediments in progression.

If it be a fact that the consensus of opinion amongst the breeders and users of race horses, harness horses, saddle horses, and all others, except the breeders and exhibitors of Clydesdale, be in favour of a medium sized foot, and against 'a large foot,' then I would say that it rests with Clydesdale breeders and exhibitors to make good the position they have taken up. Colonel Holloway certainly has not made good the position. Leaving the subject of 'large feet,' I shall now take up that of '*long sloping pasterns;*' but before doing so, I desire to thank Colonel Holloway for having given me credit for advocating the *utility* of long sloping pasterns in the race horse.

The Colonel, however, writes:—'I am much surprised at Professor M'Call's position acknowledging the want of long sloping pasterns for race horses, but denying the need of them for draught horses. They are needed for all horses. The want of them is a defect in any and every horse. *Long sloping pasterns* are, if anything, *more needed in draught horses than in others*, for the *reason* that the movement of draught horses is attended with greater concussion from the increased momentum given by their greater weight.' Granting that draft horses weigh more than other breeds of horses, is it the fact that the movement of their bodies in space 'is attended with greater concussion from the increased momentum given by their greater weight'? That will, I think, entirely depend upon the velocity at which the bodies are travelling. A draught horse seldom moves at a more rapid rate than 4 miles an hour, and his stride will be about 5½ feet. A trotting horse will cover a mile in three minutes, and his stride will be about 7½ feet. A race horse will gallop a mile in two minutes, and his stride will range from 16 feet to 22 feet, more or less. The horse walking has three legs, and never less than two legs on the ground. The horse trotting has two legs up and two legs on the ground. The horse galloping in the seventh stage of motion has one leg on the ground four times, two legs on the ground twice, and no legs once. Now, is it a fact, in plain language, that the draught horse is throwing his body upon his feet with greater force (momentum) in his daily labour than the hackney or race horse? Why, the merest tyro in mechanics must know, if what I have stated be correct, that it cannot be so; and if the Colonel had trusted to his own judgment, instead of attempting to square it with his pet views of the conformation of the patterns, he would not have fallen into such an egregious error. We thus see that the reason given by Colonel Holloway for thrusting 'long pasterns' on draught horses will not stand investigation; in truth, we might say it has neither feet nor pasterns to stand on, and consequently falls to the ground.

I have not time to follow Colonel Holloway in all his interesting riding and driving experiences, but it strikes me that occasionally he drives, in imagination, the 'cart before the horse.'

For example, he says that 'there could be no feet very long without pasterns to preserve them. The pasterns are the protectors, the conservators of both feet and legs.

Now, I object to Colonel Holloway or any individual taking upon himself to say what the pasterns do for the feet or the feet for the pasterns, because they act *in consort*, and no one has any knowledge of how they would or could act otherwise; but if the Colonel will insist on the pasterns concerning the feet to the extent he does, then I maintain that the feet do more to preserve the pasterns than the pasterns do to preserve the feet. It is the feet, and not the pasterns, which come in contact with the ground, and the concussion or stroke tells first on them, and only after it has distributed itself over the feet can it reach the pasterns. How then can it be said that the pasterns protect the feet more, or even as much, as the feet protect the pasterns? I may be wrong, but it strikes me that if the Colonel understood the anatomy and physiology of the hoof, he would hesitate to write so dogmatically and glibly about the conservative power exercised by the pasterns over the feet. The pastern or fetlock joint can only move in two directions, downward and backward and upward and forward, and this last it does with a 'jerk-like action,' somewhat similar to what we observe taking place in the closing of the blade of a penknife. *The fetlock joint is a 'spring joint,' and the longer it is the weaker it is.*

But what about the foot? Will a sentence or two explain its mechanism? No. Truly an issue of your paper would only touch the fringe of that subject; but I must say something. The foot by many is looked upon as a more or less solid organ, devoid of elasticity and feeling, and possessed of little, if any, inherent power of movement, whereas it is just the reverse. Concussion

on the front half of the foot is provided for by the horn fibres and sensitive fibres allowing the pedal bone to sink down at the toe at the moment the foot strikes the ground, and to rebound when the momentum or shock has passed.

Now take the posterior half of the foot. The fibres of the wall here (horny and sensitive) being short, there is little up and down play, and it is not needed. Underneath the foot we have the horny sole, and wedged into it is the frog, formed of horn externally, but underneath largely of fatty elastic tissue. In the unshod foot it fills up two-thirds of the sole surface and rises far above it. By its prominence and shape it gives not only a secure foothold, but by its inherent elasticity (india-rubber like) it lessens the shock of concussion, and throws it on the lateral cartilages, etc., etc. It is thus apparent that 'the arrangements which assist to save the foot from concussion are numerous . . . We have in the first instance the highly elastic and india rubber-like horny frog, the fibro-fatty or plantar cushion, the elastic cartilages of the foot, the elastic posterior wall, and, moreover, the descent of the sensitive foot within its glove, the horny foot.' A great deal more might be said upon the provisions which exist for reducing concussion in the part concussed, viz., the foot, but I cannot dwell on this point. Sufficient, however, I think has been said to prove that Colonel Holloway is in error when he alleges that 'the pasterns are the protectors, the conservators of both feet and legs.' That the fetlocks in their conformation and length are points worthy of consideration I do not for one moment call in question; but in my opinion, the pasterns have more to do with elasticity in movement, by their co-relation to the *portions of the body* which are *placed above them*, than by their co-relation to the feet which are placed underneath them, and on which the body rests and rotates.

If the Colonel's contention that dray horses, in order to ward off concussion, 'required longer pasterns than other breeds of horses,' as long pasterns are the exception, then lameness from disease of the fetlocks in draught horses should be frequent complaints. Now, I unreservedly assert that fetlock or pastern lameness is a rare disease in draught horses. The horses whose fetlocks fail are *long pasterned* harness, saddle, and hunting horses. Drive a horse with extra long pasterns on hilly roads, and more especially in double harness, where he has to hold back the vehicle by his heels and frogs and fore fetlocks, and before long he will be lame in his fetlocks.

True it is, the longer the pastern (the lever being lengthened) the greater the play and elasticity, but the greater the tension on and wear and tear and fatigue of the suspensory ligament and the back tendons of the limb. I object to long, low pasterns, especially in the hind limbs of dray horses, for various reasons—(1) Because the conformation induces the animals to tramp their hoof heads, and inclines them to go too much on the back of their feet, and to cock their toes; (2) because it inclines to strain the back tendons; (3) because the position and length of pasterns diminishes their power of lifting heavy loads. When a horse lifts a load taxing all his strength, he invariably sticks his toes into the ground, and raises his hind pasterns to the perpendicular; and if the pasterns be extra long, he has a difficulty in attaining the position which gives greatest advantage to the muscles in the act of moving the weight.

Leaving now the points of feet and pasterns, let me briefly refer to what the Colonel has said regarding other points of the animal.

I freely grant that feet and legs are of the first consequence in a horse; but if that horse is to prove himself 'useful as well as ornamental,' and that is the true test, he can only do so when he has a *chest* of capacity to contain a big heart and large lungs, and an *abdomen* voluminous enough not only to accommodate stomach, bowels, and food to nourish and maintain his body in health, but likewise to store up a reserve force that will be through his *muscles* sufficient to drive on his legs and feet.

A cripple or lame horse from failure of his feet, if he feeds well and rests his body during the night, may do good service (hundreds are doing it); but a horse who does not feed, and, by his ribless conformation, cannot feed, however markedly he may conform to Colonel Holloway's '*three requisites*,' and be in possession of 'large well-shaped feet, long sloping pasterns, and broad, sharp, clean legs,' is certainly not a valuable cart horse, nor a type to be copied.

The Colonel further writes: "One other position taken up by Mr. Galbraith on the occasion referred to was that there is an antagonism between size and massiveness, and the right quality of feet, pasterns, and legs, and that we must sacrifice something of quality in order to get more size. Now, this is an assumption entirely without foundation.

There is no antagonism between the utmost massiveness and the sharpest, flintiest legs and long sloping pasterns and the best of feet.

Personally, I am delighted to learn that Colonel Holloway can, from his large experience, write in such reassuring language; but I fear that he is too sanguine, for, from all I can observe as the results of 'mateing' prize mares and stallions, the natural tendency is for the progeny to become finer, and of less strength and weight. That was the opinion formerly held by the late Mr. Lawrence Drew, and hence the extent to which he made use of Shire mares to mate with Clydesdale stallions, and I make bold to say that no breeder, either before or since his day, has produced such magnificent specimens of draught horses.

But wherein lay the secret of Mr. Drew's success? Undoubtedly principally (1) in selecting mares with well-shaped, wide, deep bodies, and (2) the best of feet and legs to be had.

I am not afraid of the Clydesdale breed becoming too small in height, or losing their good feet and legs and action; but I opine that unless breeders, exhibitors, and judges run after bodies as much as legs (and for a few years to come, probably more), pure bred Clydesdales will not hold their own in the market as against Shires.

Now that Clydesdales can only recruit their ranks by drawing blood from within their ranks, it is more than ever imperative to keep a sharp look-out upon the size and quality of the bodies of the animals obtaining prizes, and consequently looked upon as the type of horses to breed. If, as Colonel Holloway affirms, we can 'ingraft' bodies of size and shape as good as the Shire on our Clydesdales, and can find the animals within our own ranks for doing so, then it is our bounden duty to do so; and when it is accomplished, it will be found that for pluck and action, endurance and strength, the Clydesdale breed of horses hold their own against any breed of draught horses in the world.

Personal.

At the Edinburgh University the examinership in veterinary hygiene has been awarded to Professor W. O. Williams, of the New Veterinary College, and the unanimity with which this appointment was agreed to is a striking tribute to the ability and popularity of the young professor.

Mr. S. Locke was elected a Town Councillor of Manchester last week with a majority of 181.

Students in the Scottish Universities.

THE *Edinburgh Evening Dispatch* of Jan. 12th, 1893, gives the following interesting statement of the numbers of matriculated students in Edinburgh University for the past four years :—

Year.	Arts.	Divinity.	Law.	Medicine.	Total.
1889	981	124	472	2025	3602
1890	940	116	468	1979	3505
1891	942	88	485	1839	3354
1892	881	82	460	1715	3138

Total diminution during the four years, 464—made up of 100 arts, 42 divinity, 12 law, 310 medicine. The corresponding figures of Glasgow University are as follows :—

Year.	Arts.	Divinity.	Law.	Medicine.	Total.
1889	996	95	192	818	2101
1890	998	88	197	770	2053
1891	972	93	206	820	2091
1892	941	89	205	760	1995

Net diminution during the four years, 106—made up of 55 Art, 6 Divinity, 58 Medicine—less increase in Law, 13. The foregoing figures do not, in the case of either University, include students enrolled in non-curriculum classes on payment of 5s. fee, or include female students. For the current session 127 women are matriculated at Glasgow and 70 at Edinburgh.

Canine Hygiene.

We have received from Mr. Everett Millais, says the *British Medical Journal*, a copy of a letter addressed by him to the Committee of the Kennel Club, resigning his membership of the club. The cause of his resignation is one of no little importance to animal hygiene. He and a few other enlightened dog-owners have for some years waged warfare against the utter disregard of hygiene at dog shows. Infectious animals, it appears, are admitted, and the benching, which may be moved about from show to show, is not disinfected. Distemper is largely spread by shows. Mr. Chaplin, when appealed to as Minister of Agriculture, expressed the opinion that the matter was rather one for the Kennel Club than for the Legislature, while, in his other capacity as an M.F.H., who had lost 100 dogs from distemper in one year, he sympathised with the proposal to enforce disinfection and the exclusion of infected dogs. The Kennel Club, there is good reason to believe, might work a great reform by a stroke of the pen ; but it appears unwilling to move. Inaction cannot be held to be due to want of knowledge, and we are at a loss to conceive the arguments by which it defends itself from being responsible by this neglect for the infliction of more suffering on dogs and more deaths among dogs in the course of a year than have been produced in the cause of scientific research in a generation.

American Veterinary Titles.

Quite an interesting case was up for trial before Justice Magill recently. The defendant, Dr. H. G. Rogers, veterinary surgeon, of Washington, was arrested last fall on information by James A. Waugh, a veterinary surgeon, of Allegheny, the charges on the first information being fraud and perjury with wilful intent to deceive.

James Burnside and J. M. Braden, Esqs., were counsel for the defendant, and John C. Bane, Esq., for the commonwealth. At the beginning of the hearing the charges of fraud and perjury were withdrawn, and the prosecution was conducted on the charge of misdemeanour. Waugh claims to be acting by authority of the Pennsylvania Veterinary Association, and that it is his object to purify the profession and rid it of quacks. He also claims that Rogers is not a regular graduate of any chartered college of veterinary science. The defendant claims that his certificate of graduation from Ellesmere University, in England, was burned while he was visiting in Richmond.

After hearing the evidence on both sides, Justice Magill held the defendant for trial by court and fixed his bail at 100 dollars.—*Washington Daily Reporter.*

Glanders in London.

On Friday last, Mr. Herbert Gardner, Minister of Agriculture, received a deputation from a committee of metropolitan horse owners, who urged upon him the expediency of making compulsory the Glanders Order of 1892, which authorises Local Authorities, if they think fit, to cause the slaughter of horses infected with glanders or farcy, granting compensation to the owners. The London County Council has declined to act on this order. Mr. Gardner expressed regret at the course adopted by the County Council, but said the proposal to make the order compulsory was a very serious one, with which the Government were at present unable to comply. They would, however, keep the subject in view.

Tænia Mediocanellata.

Berenger-Feraud (*Bull. de l'Acad. de Méd.*, January 3rd, 1893), discussing the numbers and length of tænia mediocanellata in man, analyses 2,686 cases. In 87 per cent. 1 worm only was present ; in 7 to 8 per cent., 2 ; in 2 to 3 per cent., 3. Although as many as 27 (Richard) and 59 (Lacker) have been found in one individual, it is quite exceptional to meet with any number over 5. As regards length, he concludes from 1597 observations that in 52 per cent. the parasite is less than 5 metres in length ; in 39 per cent. it measures from 6 to 11 metres ; and in 6 per cent. from 11 to 15 metres. Rarely are these figures exceeded ; but he quotes a case of tænia mediocanellata contracted in Madagascar, in which there were three worms measuring and weighing respectively 37 metres, 197 grammes ; 43 metres, 276 grammes ; and 74 metres, 449 grammes.—*British Medical Journal.*

CORRESPONDENCE.

THE SUMMER SESSION SCHEME.

SIR,

Seeing in last week's *Record* the report of the Council meeting stating that the Royal Veterinary College had decided to adopt a summer session I must say I was surprised, and shall feel very much regret if any such course is put into force.

It seems to me that instead of making the short break of a month at Easter and then continuing study till July it would be a much better plan to commence the College course in September and terminate in April.

I do not put forward this suggestion without having several good reasons to support it. Every member of the profession knows that the months of March, April, and May are amongst the busiest of the whole year—parturition cases are abundant, the weather is unsettled and affections of the respiratory tract are of common occurrence, whilst the change of diet to green food initiates numerous disorders of the digestive tract. This, of course, may be used as an argument for the month's break from book study in April as suggested, and I would not offer any objection, except on the ground that the time is not sufficient. What can a student do in a month? Suppose he leaves the College at the end of March; if he has been thoughtful he has beforehand made his arrangements with the veterinary surgeon with whom he intends to see practice ; it is quite a fortnight

before they become acquainted with one another sufficiently well to come to an understanding, and by the time the College term commences the student is just getting a little responsibility and a few cases entrusted to his care.

I really think that very few practitioners would like to have pupils who are so continually flitting about; in my experience clients don't like to see so many strange faces, and certainly the best way for a pupil to "learn" is to be placed in such a way that he must rely on *his own* common-sense and feel a certain amount of responsibility; this a veterinary surgeon will not allow unless he has had some previous acquaintance of his pupil and knows how he will act in such an emergency.

By holding the examinations in April and re-opening College in September a student gets a clear four months vacation. September, too, is a very much better month to study in than July. In London, at all events, the idea of studying (especially in the dissecting room) is almost intolerable. Although September is also a hot month, it is better policy to have an idle month at the commencement of a session than to have a spell of hot weather just when the examination is close and everyone is working at high pressure.

I hope before this scheme is finally settled that the *pros.* and *cons.* will be thoroughly discussed, and that members of the profession will take interest in the matter and give their views on the subject, as I think it to be one of vast importance to present practitioners as well as to those of the future.—Yours truly,

B. L.

[The Royal Veterinary College has adopted a summer session which commences May 1st. The winter session ends April 30th—there is therefore no break, but there is a loss of three weeks work on the winter session.—Ed.]

Communications, Books, and Papers received:—Messrs. J. Tainish, John Blakeway; "Edinburgh Evening Dispatch," "Birmingham Gazette," "The Cork Constitution."

Veterinary Societies—Addresses.

Bombay V.M.A.

Pres: Capt. Jas. Mills, M.R.C.V.S.
Vice-Pres: Messrs. N. D. Dhakmarwalla, V. E. Vakharia, G.B.V.C., S. G. Haji, S. N. Ranina, G.B.V.C.
Sec: S. K. Nariman, M.D., B. SC., L.V.SC.
Off Hon. Sec: Mr. J. D. Parokh, G.B.V.C., Bombay Vet. Coll.

Border Counties V.M.S.

Pres: Mr. R. Rutherford, F.R.C.V.S., Edinburgh
Hon. Sec: Mr. J. Armstrong, M.R.C.V.S., Penrith, Cumberland
Meetings, Second Friday of Feb., June, and October.

Calcutta V.M.A.

Pres: Mr. Greenhill, M.R.C.V.S.
Hon. Sec: Mr. T. Assheton Smith, 156 Dhurrumtollah.

Central V.M.A.

Pres: Mr. W. Roots, M.R.C.V.S., 13 Winchester Street, London, S.E.
Hon. Sec: Mr. H. G. Rogers, M.R.C.V.S., 170 Brompton Road, London, S.W.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

Eastern Counties V.M.A.

Pres: Mr. F. Low, M.R.C.VS., Norwich.
Hon. Sec.: Mr. W. Shipley, Jnr., Southtown, Gt. Yarmouth
Meetings, Second Tuesday, Feb. and July.

Vet. Med. Assn. of Ireland.

Pres: Mr. T. D. Lambert, F.R.C.V.S. Store Street, Dublin.
Hon. Sec Mr. J. McKenny, M.R.C.V.S., 116 Stephens-green-west, Dublin.

Lancashire V.M.A.

Pres: Mr. W. Woods, F.R.C.V.S, Standish Gate, Wigan.
Hon. Sec: Mr. J. B. Wolstenholme, M.R.C.V.S., Quay Street, Manchester.
Meetings, 2nd Wednesday in March, June, Sept., & Dec.

Lincolnshire V.M.S.

Pres: Mr. T. E. Smith, M.R.C.V.S., Market Rasen
Hon. Sec: Mr. J. Smith, M.R.C.V.S., Huntingdon.
Meetings, Second Thursday, Feb., June and October.

Midland Counties V.M.A.

Pres: Mr. F. W. Barling, M.R.C.V.S., Ross, Hereford
Hon. Sec: Mr. H. J. Dawes, M.R.C.V.S., High St., West Bromwich.
Meetings, Second Friday in Feb., May, November, Second Tuesday in August.

National Vet. Association.

Pres: Mr. E. Faulkner, M.R.C.V.S., Manchester
Sec: Mr. John Malcolm, F.R.C.V.S., Birmingham
Sec. of Prov. Com:

National Veterinary Benevolent & Mutual Defence Society.

Pres: Mr. Peter Taylor, F.R.C.V.S., Manchester
Treas: Mr. Thomas Greaves, F.R.C.V.S., Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S., Grosvenor Street, Oxford-st., Manchester

North of England V.M.A

Pres: Mr. W. Hunter, M.R.C.V.S, Newcastle.
Hon. Sec: Mr. W. A. Hancock, M.R.C.V.S., Forest Hall, Newcastle-on-Tyne.
Meetings, Third Friday, Feb., May, Aug. and Nov.

Royal Counties V.M.A.

Pres: Mr. J. D. Barford, F.R.C.V.S., Southampton.
Hon. Sec: Mr. J. Sutcliffe Hurndall, M.R.C.V.S., Sussex Villas, Cornwall Gardens, South Kensington.
Meetings, Last Friday, Feb., June and Nov.

Royal Scottish V.S.

Pres: Mr. Reid, M.R C.V.S., Auchtermuchty.
Hon. Sec: Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

Royal Veterinary College M.A.

Pres: Mr. Wild.
Hon. Sec: Mr. T. F. Wilson.

Scottish Metropolitan V.M.S.

Pres: Prof. W. O. Williams, F.R.C.V.S., New Vet. Coll., Edin.
Hon. Sec: Mr. P. Moir, M.R.C.V.S., 9 Kilmain Terr. Edinbro'

South Durham and North Yorkshire V.M.A.

Pres.: Mr. F. R. Stevens, M.R.C.V.S., Darlington.
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June, Sept. and Dec.

Southern Counties V.M.S.

Pres: Mr. J. F. Simpson, F.R.C.V.S, Maidenhead.
Hon. Sec: Mr. C. Pack, M.R.C.V.S., Lymington, Hants.
Meetings, Last Thursday, Mar., June and Sept.

South Wales and Monmouthshire V.M.A.

Pres: Mr. D. M. Storrar, M.R.C.V.S., Abergavenny.
Hon Sec. Mr. A. C. Stewart, M.R.C.V.S., Cardiff.
Meetings, First Thursday in March, and Autumn.

Western Counties V.M.A.

Pres: Mr. G. H. Elder, M.R.C.V.S., Taunton, Somerset
Hon. Sec: Mr. W. Harvey Bloye, M.R.C.V.S., Ebrington Street, Plymouth.
Meetings, Third Thursday, March and September.

West of Scotland V.M.A.

Pres: Mr. D. Allan, M.R.C.V.S., Clarkston-by-Busby, Glasgow
Hon. Sec: Mr. W. Anderson, F.R.C.V.S., West Nile-st. Glasgow

Yorkshire V.M.A.

Pres; Mr. G. E. Bowman, Woodhouse Lane, Leeds.
Hon. Sec; Mr. W. F. Greenhalgh, M.R.C.V.S., 110 North Street, Leeds.
Meetings, Last Friday in Jan., April, July, and October.